

## CLAIMS

What is claimed is:

1. An assembly method for maintaining integrity of a mounting substrate when attaching a semiconductor die thereto, said mounting substrate having a plurality of die attach sites on a surface thereof comprising:  
mapping the plurality of die attach sites on the mounting substrate for determining good die attach sites and defective die attach sites;  
storing information for the good die attach sites and the defective die attach sites of the mounting substrate in an electronic file for access therefrom for accessing the information of at least one good die attach site on the mounting substrate and for accessing the information for at least one defective die attach site on the mounting substrate;  
attaching at least one semiconductor die to the mounting substrate using the information by one of attaching a known good die to a good die attach site of the good die attach sites using the information for a good die attach sites; and  
attaching a known defective die to a defective die attach site of the defective die attach sites using the information of defective die attach sites.
2. The method of claim 1, wherein mapping comprises testing at least one die attach site of the plurality of die attach sites on the mounting substrate.
3. The method of claim 1, further comprising providing a designator having substrate identification information on a peripheral portion of the mounting substrate.
4. The method of claim 3, further comprising providing a reading unit for reading the designator to access the information in the electronic file with respect to the mounting substrate corresponding to the substrate identification information.

5. A method for fabricating semiconductor packages, each package having a mounting substrate having a plurality of die attach sites on at least one surface thereof, the method comprising:

evaluating the plurality of die attach sites on the mounting substrate for determining information regarding the die attach site for determining good die attach sites; and for determining defective die attach sites from the information;

attaching at least one semiconductor die to the mounting substrate according to the information by one of attaching a known good die to a good die attach site of the good die attach sites and attaching a known defective die to a defective die attach site of the defective die attach sites using the information regarding good die attach sites and defective die attach sites; and

encapsulating the mounting substrate using an encapsulation material for encapsulating at least one known good die and at least one known defective die on the mounting substrate.

6. The method of claim 5, wherein evaluating comprises testing each of the plurality of die attach sites on the mounting substrate.

7. The method of claim 5, further comprising providing the information to an electronic file.

8. The method of claim 7, further comprising providing a designator having substrate identification information on a peripheral portion of the mounting substrate.

9. The method of claim 8, further comprising reading the designator with a reading unit to access the information in the electronic file with respect to the mounting substrate corresponding to the substrate identification information.

10. The method of claim 5, further comprising segregating the at least one semiconductor die attached to the mounting substrate into a semiconductor die package.

11. The method of claim 10, wherein segregating comprises separating from the semiconductor package at least one semiconductor die package having one of the known good die attached to the good die attach site and the known defective die attached to the defective die attach site according to the information.

12. The method of claim 5, wherein encapsulating comprises transfer molding the mounting substrate.